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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,347	10/14/2003	Joseph R. Pace	EVA-OMNI-B	1224

23531 7590 07/13/2005

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EXAMINER
NGUYEN, HUNG T

ART UNIT	PAPER NUMBER
2636	

DATE MAILED: 07/13/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	**Application No.** 10/685,347	**Applicant(s)** PACE ET AL.	
	Examiner Hung T. Nguyen	**Art Unit** 2636	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *10/14/03* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date *4/29/2004*.

4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1, 11 & 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the information" in line 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 11 recites the limitation "the presence" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 16 recites the limitation "the presence" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Drawings

3. The drawing is objected to under 37 CFR 1.84(o) which requires legends on drawings:

--In fig. 2, All the number in the boxes 310, 340, 3100, 3105, 3206, 3210, 3212, 3224 & 3226 should be provided with descriptive labels (e.g., detection system, sensor, processor, battery, etc). Correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 1-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Petit et al. (U.S. 5,092,544) in view of Hopkins (U.S. 3,758,775).

Regarding claim 1, Petit discloses a highway crossing control system for railroad detection by circuits (20-22, 24, 26, 28) [figs.1-2, col.1, lines 26-39, lines 58-68, col.2, lines 27-30 and col.3, lines 9-31] comprising:

- a plurality of sensor in a form of circuits (20-22, 24, 26, 28) coupled to tracks (10,12) for detecting on coming of the train / presence on the tracks [figs.1-2, col.2, lines 27-30 and col.3, lines 9-31];
- the plurality of circuits (20-22, 24, 26, 28) coupled to warning signal / lights (16,18) [figs.1-2, col.2, lines 27-30, col.3, lines 9-31 and col.4, lines 3-13];
- a controller / CPU (58) coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed, distance and direction by radio signal (64,78) [figs.1-2, 4, col.3, lines 9-31 and col.4, lines 3-38 and col.5, lines 33-48];

The reference of Petit does not specifically mention the train detection in a fail-safe state if the sensor and controller discover an abnormal condition / anomaly.

However, Petit does disclose the system is used for providing vital (fail-safe) in that it prevents the trains from moving into the cross unless the protection equipment is in safe condition, in the event of any failure of communications or in the crossing controller itself [col.1, line 49 to col.2, line 30].

Furthermore, Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hopkins in the system of Petit to enhance more security and safety to human being in case the sensors, controller or other device are not working in properly condition.

Regarding claim 2, Petit discloses the controller / CPU (58) which can be programmed to perform safety checks coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed, distance and direction by radio signal (64,78) [figs.5-6, col.1, lines 58-67and col.5, line 55 to col.6, line 61]; and

Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Regarding claim 3, Petit discloses the plurality of circuits (20-22, 24, 26, 28) coupled to warning signal / lights (16,18) [figs.1-2, col.2, lines 27-30, col.3, lines 9-31 and col.4, lines 3-13];

- a controller / CPU (58) coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed, distance and direction by radio signal (64,78) [figs.1-2, 4, col.3, lines 9-31 and col.4, lines 3-38 and col.5, lines 33-48];
- Petit does disclose the system is used for providing vital (fail-safe) in that it prevents the trains from moving into the cross unless the protection equipment is in safe condition, in the event of any failure of communications or in the crossing controller itself [col.1, line 49 to col.2, line 30].

Furthermore, Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hopkins in the system of Petit to enhance more security and safety to human being in case the sensors, controller or other device are not working in properly condition.

Regarding claim 4, Petit discloses the plurality of circuits (20-22, 24, 26, 28) coupled to warning signal / lights (16,18) [figs.1-2, col.2, lines 27-30, col.3, lines 9-31 and col.4, lines 3-13];

- a controller / CPU (58) coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed / presence / approaching, distance and direction by radio signal (64,78) [figs.1-2, 4, col.3, lines 9-31 and col.4, lines 3-38 and col.5, lines 33-48].

Regarding claims 5-8, Petit discloses the controller / CPU (58) coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed, distance and direction by radio / wireless signal (64,78) [figs.1-2, 4, col.3, lines 9-31 and col.4, lines 3-38 and col.5, lines 33-48];

- the controller / CPU (58), axle generator (56) may communicate with interrogator (54), transponder (38) by radio communication. Messages are digitally coded bits containing fields [fig.2, col.4, lines 3-38].
- Petit does disclose the system is used for providing vital (fail-safe) in that it prevents the trains from moving into the cross unless the protection equipment is in safe condition, in the event of any failure of communications or in the crossing controller itself [col.1, line 49 to col.2, line 30].

Furthermore, Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hopkins in the system of Petit to enhance more security and safety to human being in case the sensors, controller or other device are not working in properly condition.

Regarding claim 9, In fig.2, Petit teaches the controller / CPU (58), axle generator (56) may communicate with interrogator (54), transponder (38) by radio communication. Messages are digitally coded bits containing fields [col.4, lines 3-38].

Regarding claim 10, Petit discloses the plurality of circuits (20-22, 24, 26, 28) coupled to warning signal / lights (16,18) [figs.1-2, col.2, lines 27-30, col.3, lines 9-31 and col.4, lines 3-13];

- a controller / CPU (58) coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed / presence / approaching, distance and direction by radio signal (64,78) [figs.1-2, 4, col.3, lines 9-31 and col.4, lines 3-38 and col.5, lines 33-48]; and

Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Regarding claim 11, Petit discloses a plurality of sensor in a form of circuits (20-22, 24, 26, 28) coupled to tracks (10,12) for detecting on coming of the train / presence on the tracks [figs.1-2, col.2, lines 27-30 and col.3, lines 9-31];

- the plurality of circuits (20-22, 24, 26, 28) coupled to warning signal / lights (16,18) [figs.1-2, col.2, lines 27-30, col.3, lines 9-31 and col.4, lines 3-13];
- a controller / CPU (58) which can be programmed to perform safety checks coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed, distance and direction by radio signal (64,78) [figs.5-6, col.1, lines 58-67and col.5, line 55 to col.6, line 61].

The reference of Petit does not specifically mention the train detection in a fail-safe state if the sensor and controller discover an abnormal condition / anomaly.

However, Petit does disclose the system is used for providing vital (fail-safe) in that it prevents the trains from moving into the cross unless the protection equipment is in safe condition, in the event of any failure of communications or in the crossing controller itself [col.1, line 49 to col.2, line 30].

Furthermore, Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hopkins in the system of Petit to enhance more security and safety to human being in case the sensors, controller or other device are not working in properly condition.

Regarding claims 12-15, Petit discloses a plurality of sensor in a form of circuits (20-22, 24, 26, 28) coupled to tracks (10,12) for detecting on coming of the train / presence on the tracks [figs.1-2, col.2, lines 27-30 and col.3, lines 9-31];

- the controller / CPU (58) which can be programmed to perform safety checks coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed, presence / approaching, distance and direction by radio signal (64,78) [figs.5-6, col.1, lines 58-67and col.5, line 55 to col.6, line 61]; and

Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Therefore, it would have been obvious to one having ordinary skill in the art to employ the teaching of Hopkins in the system of Petit to enhance more security and safety to human being in case the sensors, controller or other device are not working in properly condition.

Regarding claims 16-18, Petit discloses a plurality of sensor in a form of circuits (20-22, 24, 26, 28) coupled to tracks (10,12) for detecting on coming of the train / presence on the tracks [figs.1-2, col.2, lines 27-30 and col.3, lines 9-31];

- the plurality of circuits (20-22, 24, 26, 28) coupled to warning signal / lights (16,18) [figs.1-2, col.2, lines 27-30, col.3, lines 9-31 and col.4, lines 3-13];
- a controller / CPU (58) which can be programmed / stored any desired input to perform safety checks coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed, distance and direction by radio signal (64,78) [figs.5-6, col.1, lines 58-67and col.5, line 55 to col.6, line 61].

The reference of Petit does not specifically mention the train detection in a fail-safe state if the sensor and controller discover an abnormal condition / anomaly.

However, Petit does disclose the system is used for providing vital (fail-safe) in that it prevents the trains from moving into the cross unless the protection equipment is in safe condition, in the event of any failure of communications or in the crossing controller itself [col.1, line 49 to col.2, line 30].

Furthermore, Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Therefore, it would have been obvious to one having ordinary skill in the art to use the teaching of Hopkins in the system of Petit to enhance more security and safety to human being in case the sensors, controller or other device are not working in properly condition.

Regarding claims 19-20, In fig.2, Petit teaches the controller / CPU (58), axle generator (56) may communicate with interrogator (54), transponder (38) by radio communication. Messages are digitally coded bits containing fields [col.4, lines 3-38].

Regarding claims 21-25, Petit discloses the plurality of circuits (20-22, 24, 26, 28) coupled to warning signal / lights (16,18) [figs.1-2, col.2, lines 27-30, col.3, lines 9-31 and col.4, lines 3-13];

- the controller / CPU (58) coupled to axle generator (56), the plurality of circuits (20-22, 24, 26, 28), warning signal / lights (16,18) to determine the train speed / presence / approaching, distance and direction by radio signal (64,78) [figs.1-2, 4, col.3, lines 9-31 and col.4, lines 3-38 and col.5, lines 33-48];

Petit does disclose the system is used for providing vital (fail-safe) in that it prevents the trains from moving into the cross unless the protection equipment is in safe condition, in the event of any failure of communications or in the crossing controller itself [col.1, line 49 to col.2, line 30] and

Hopkins teaches railroad crossing signaling (21) utilizes sensors (34) in a form of magnetic flange detector to sense the presence of trains on the tracks (23,24,25,26) and railroad crossing signaling should be fail safe. That is the warning device (32) should be activated in the event of the system failure because false alarms are preferable to insensitivity to rail traffic [figs.1-2, col.3, lines 38-62 and col.5, lines 19-26].

Therefore, it would have been obvious to one having ordinary skill in the art to have the teaching of Hopkins in the system of Petit to enhance more security and safety to human being in case the sensors, controller or other device are not working in properly condition.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Darrow et al. (U.S. 3,781,541) Fail-safe railroad highway grade crossing protection system.
- Shirkey et al. (U.S. 5,554,982) Wireless train proximity alert system.
- Anderson (U.S. 6,157,322) Automated railroad crossing warning system.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung T. Nguyen whose telephone number is (571) 272-2982. The examiner can normally be reached on Monday to Friday from 8:00am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hofsass, Jeffery can be reached on (571) 272-2981. The fax phone number for this Group is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 305-4700.

HUNG NGUYEN
PRIMARY EXAMINER

Hung Nguyen

Examiner: Hung T. Nguyen
Date: July 8, 2005